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10/524,291	09/22/2005	Hermann Goebels	037068.55856US	6376

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EXAMINER	
NGUYEN, VU Q	
ART UNIT	PAPER NUMBER
3683	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,291	GOEBELS ET AL.	
	Examiner	Art Unit	
	VU Q. NGUYEN	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-21 and 24-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21 and 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 13-21 and 24-26 are objected to because of the following informalities:

In claim 13, line 15, “the solenoid control valve” should be --the only one additional solenoid control valve--.

In claim 26, line 26, “the only one additional solenoid control valve” should be --the only one additional pressure regulating valve--.

In claim 26, lines 27-28, “the two relay valves and the assigned solenoid control valves" should be --the first and second relay valves and the assigned first and second pressure regulating valves--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-21, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent Document GB 2270130 (GB ‘130) in view of U.S. Patent No. 6371573 (Goebels et al.), and further in view of UK Patent Document GB 2136521 (GB ‘521).

Regarding claim 13, GB '130 discloses in Fig. 2a, a pressure regulator module (100) for a vehicle pneumatic braking system for a wheel-slip-dependent controlling or regulating of braking pressures applied to two separate working connections (18, 19), the pressure regulator module (100) comprising: a two-way valve assembly (1) having two conduits (left and right sides of valve assembly 1), including one relay valve (3, 4), respectively, for each conduit, each relay valve (3, 4) having a control input (5); wherein a respective solenoid control valve (30, 30') (in the form of a proportional valve) is assigned to the control input (5) of each relay valve (3, 4); wherein the solenoid control valves (30, 30'), together with only one additional solenoid control valve (12) coupled on an input side of the module (100), connect the control input (5) of the respective relay valve (3, 4) with at least one of a bleeding system (11, 11'), a control pressure (13, 14), and a compressed-air reservoir (17); a controlling and regulating unit (2) operatively configured to control the only one additional solenoid control valve (12) to connect the control input (5) of the respective relay valve (3, 4) with the compressed air reservoir (17) (when valve 12 is in an energized position) for adapting the speed of rotation of a driven wheel, which initially slips during acceleration, to the speed of rotation of a non-slipping wheel.

Regarding claim 13, GB '130 does not disclose expressly that the respective solenoid control valves (30, 30') are in the form of a 3/2-way valve having two switching positions; and the solenoid control valve (30 or 30') assigned to a slipping wheel is controlled in a timed manner depending on the slip rate of the slipping wheel and a change in velocity of said slipping wheel, whereby the solenoid control valve (30 or 30')

assigned to the slipping wheel is alternatively switched back and forth between a pressure buildup position and a pressure reduction position by the controlling and regulating unit (2). Instead, the respective solenoid control valves (30, 30') are in the form of proportional valves having continuously changing positions.

Regarding claim 13, Goebels et al. disclose in Fig. 7, the use of a solenoid control valve (55), in the form of a 3/2-way valve having two switching positions, assigned to the control input of a relay valve (57). Goebels et al. further disclose that the solenoid control valve can be controlled in a timed manner depending on the slip rate of a slipping wheel and a change in velocity of the slipping wheel (see Figs. 1, 3-5), whereby the solenoid control valve is alternatively switched back and forth between a pressure buildup position and a pressure reduction position (column 5, lines 1-17).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the proportional valves of the valve assembly taught by GB '130 with 3/2-way valves as taught by Goebels et al. The suggestion/motivation for doing so would have been to utilize a less-expensive way of increasing, reducing, and holding pressure. Furthermore, 3/2-way valves are easier to control because they only have two switching positions, whereas proportional valves have continuously changing positions (current is varied in an analog manner as opposed to digital). Since 3/2-way valves are capable of increasing pressure, reducing pressure, and holding pressure by alternatively switching back and forth between a pressure buildup and pressure reduction position as taught by Goebels et al. (abstract; column 5, lines 1-17; column 7, line 22 - column 8, line 41), 3/2-way valves are capable of functioning in a similar

manner to the proportional valves taught by GB '130. Thus, it would have been obvious to a person of ordinary skill in the art to use 3/2-way valves, which are cheaper and easier to control, instead of proportional valves. Furthermore, one of ordinary skill in the art would control the 3/2-way valves in a proper manner by switching valve positions in a timed manner, as taught by Goebels et al., in order to effectively perform a desired wheel slip control.

Regarding claim 13, GB '130 also does not disclose expressly that the only one additional solenoid control valve (12) is arranged outside a housing accommodating the remaining valve assembly consisting of the two relay valves (3, 4) and the assigned solenoid control valves (30, 30'), and is constructed to be connectable to the remaining valve assembly for supplementing an existing anti-skid control operation by a drive-slip control operation.

Regarding claim 13, GB '521 discloses in Fig. 2, a solenoid control valve (25) arranged outside a housing accommodating a remaining valve assembly (42, 7, 8), and is constructed to be connectable to the remaining valve assembly (42, 7, 8). Also see Fig. 3 disclosing another solenoid control valve (64 or 65) arranged outside a housing (60) accommodating a remaining valve assembly, and is constructed to be connectable to the remaining valve assembly.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the valve assembly taught by GB '130 so that the only one additional solenoid control valve is arranged outside a housing accommodating the remaining valve assembly as taught by GB '521. The suggestion/motivation for doing

so would have been to allow easier access to the only one additional solenoid control valve. Furthermore, since the valve assembly taught by GB '130 is merely depicted as a schematic diagram, it would be obvious to one of ordinary skill in the art to simply re-locate or move components to a finite number of desirable locations, as long as electrical and mechanical connections are kept intact.

Regarding claim 14, see GB '130 and Fig. 2a, as well as page 11, last paragraph.

Regarding claim 15, see Goebels et al. and disclosure that, in a non-energized normal position, the solenoid control valve (55) switches a control pressure (54) through to a control input of the relay valve (57) and, in an energized position, switches the control input of the relay valve (57) through to a bleeding system (53) (Figs. 6 and 7; column 7, line 22 - column 8, line 41).

Regarding claim 16, see Goebels et al. and disclosure of the solenoid control valve (55) having a pressure buildup position (non-energized) and a pressure reduction position (energized). The solenoid control valve (55) can also hold a pressure at a brake cylinder (59) by alternatingly switching back and forth in the pressure buildup position (non-energized) and the pressure reduction position (energized) under the control of an electronic controlling and regulating unit (19) (abstract; column 5, lines 1-17; column 7, line 22 - column 8, line 41).

Regarding claims 17-19, see GB '130 and Fig. 2a.

Regarding claim 20, see GB '130 and Fig. 2a.

Regarding claim 21, see GB '130 and page 12, last paragraph - page 14, first new paragraph.

Regarding claim 24, see GB '130 and Fig. 2a.

Regarding claim 26, the claim is rejected for at least the same reasons as set forth above.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent Document GB 2270130 (GB '130) in view of U.S. Patent No. 6371573 (Goebels et al.), and further in view of UK Patent Document GB 2136521 (GB '521), as applied to claims 13-21, 24, and 26 above, and even further in view of U.S. Patent No. 6264289 (Franke et al.).

GB '130, as modified by Goebels et al. and GB '521, is relied upon as set forth above.

Regarding claim 25, GB '130 does not disclose expressly that an acceleration sensor is provided for detecting a lateral acceleration, which sensor is integrated in the controlling and regulating unit (2).

Franke et al. disclose in Fig. 3, a vehicle braking system comprising a controlling and regulating unit (41), in which an acceleration sensor (10; see Fig. 1) for detecting a lateral acceleration, is integrated in the controlling and regulating unit (41) (column 4, lines 47-52).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the controlling and regulating unit taught by GB '130 so that it is

integrated with an acceleration sensor for detecting lateral acceleration as taught by Franke et al. The suggestion/motivation for doing so would have been to provide lateral acceleration data for better control. Furthermore, integrating the acceleration sensor in the controlling and regulating unit would further provide a unitary configuration that represents economic and space-saving solutions, as taught by Franke et al. (column 5, lines 32-36).

Response to Arguments

Applicant's arguments filed 05/14/2008 have been fully considered but they are not persuasive.

Applicant argues that GB 2136521 (GB '521) does not disclose an additional solenoid control valve that is constructed to be connectable to the remaining valve assembly for supplementing an existing anti-skid control operation by a drive-slip control operation, and that GB '521 is silent regarding this feature of claim 13. As an initial matter, it should be clear from Figs. 2 and 3 of GB '521 that a solenoid control valve arranged outside a housing accommodating a remaining valve assembly, and constructed to be connectable to the remaining valve assembly (see rejection above) is known in the prior art. Thus, it appears that Applicant is arguing that the "for supplementing an existing anti-skid control operation by a drive slip control operation" recitation of the claim has not been met. However, the Examiner submits that this recitation is an intended use recitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the

prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Therefore, the Examiner submits that if the additional solenoid control valve 12 of GB '130 was arranged outside a housing accommodating the remaining valve assembly, and was constructed to be connectable to the remaining valve assembly as taught by GB '521, the device would be capable of supplementing an existing anti-skid control operation by a drive-slip operation, thereby meeting the limitation of the claim. Furthermore, on page 12 of GB '130, it is disclosed that "an ASR function (drive-slip control operation) is however frequently necessary in addition to the ABS function". On page 13, GB '130 goes on to disclose that "it is possible for such an ASR function to be achieved...with the aid of the three-port, two-position solenoid valve 12", which further supports how the limitation has been met.

Applicant further argues that it would not have been obvious to modify GB '130 with GB '521 to include these features of amended claim 13, and relies on the assertion that the box in Figs. 1-5 of GB '130 indicates that all the valves of module 1 are integrated in one housing, and that a modification of GB '130 in view of GB '521 would require a completely different structure. The Examiner disagrees. Since the valve assemblies taught by GB '130 are merely depicted as schematic diagrams, it would be obvious to one of ordinary skill in the art to simply re-locate or move components to a finite number of desirable locations (inside or outside the housing), as long as electrical and mechanical connections are kept intact to maintain functionality. Mere relocation or

movement of components without altering their functionality is surely within the general knowledge available to those of ordinary skill in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VU Q. NGUYEN whose telephone number is (571)272-7921. The examiner can normally be reached on Monday through Friday, 11:30 AM to 8:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. Q. N./
Examiner, Art Unit 3683

/Robert A. Siconolfi/
Supervisory Patent Examiner, Art Unit 3683